

AMENDMENTS TO THE SPECIFICATION

Please replace the paragraph beginning at line 8 of page 4 and ending at line 4 of page 5 with the following amended paragraph.

The braking force control means controls the braking force applied to each of the front wheels and the rear wheels of the vehicle such that the actual lateral acceleration related quantity obtained by the actual lateral acceleration related quantity obtaining means approaches the target lateral acceleration related quantity calculated in the above-described manner. Accordingly, when the vehicle is in the middle of turning or when it is starting to turn, and the vehicle-body speed is high, the braking force applied to each wheel is controlled such that a lateral acceleration related quantity of the vehicle which is smaller than the reference lateral acceleration related quantity is generated. Therefore, as compared with the case where the braking force applied to each wheel is controlled so as to generate the reference lateral acceleration related quantity, generation of excessive ~~telling~~ rolling of the vehicle body can be prevented, and the stability of the vehicle can be secured. When the vehicle-body speed is low, the braking force of each wheel is controlled such that a lateral acceleration related quantity which is larger than the reference lateral acceleration related quantity of the vehicle is generated, so that, as compared with the case where the braking force applied to each wheel is controlled so as to generate the reference lateral acceleration related quantity, the turning and tracing ability of the vehicle is improved. Notably, when the vehicle-body speed is low, the vehicle body hardly rolls excessively, so that the vehicle does not become unstable even if priority is given to improvement of the turning and tracing ability of the vehicle.

Please replace the paragraph beginning at line 6 of page 6 with the following amended paragraph.

Accordingly, as described above, if the structure is such that the amount of deviation of the target lateral acceleration related quantity from the reference lateral acceleration related quantity varies in accordance with not only the vehicle-body speed but also in accordance with the steering-member operating amount, the deviation (its absolute value) can be set such that it increases with the steering-member operating amount, and as a result, the extent to which the turning and tracing ability of the vehicle is improved and the extent to which generation of excessive rolling is prevented can be appropriately set in accordance with the extent to which the turning and tracing ability of the vehicle would otherwise decrease during low-speed travel and the extent to which excessive rolling would otherwise be generated during high-speed travel, and the state of motion of the vehicle (the state of turning motion) can be made to more closely approach an ideal state.

Please replace the paragraph beginning at line 23 of page 11 and ending at line 14 of page 12 with the following amended paragraph.

In contrast, the motion control apparatus is configured in such a manner that when the absolute value of the target lateral acceleration related quantity is greater than the target lateral acceleration related quantity limiting value, which is set in accordance with the road-surface friction coefficient, the target lateral acceleration related quantity is limited in such a manner that the absolute value of the target lateral acceleration related quantity coincides with the target lateral acceleration

related quantity limiting value. Therefore, the absolute value of the target lateral acceleration related quantity is limited to fall in the range of the lateral acceleration related quantity which the vehicle can generate at that time and which depends on the road-surface friction coefficient. Therefore, when the ~~vehicles~~ vehicle turns on a road surface having a low road-surface friction coefficient, the deviation between the target lateral acceleration related quantity and the actual lateral acceleration related quantity does not become excessively large. As a result, the turning motion of the vehicle can be prevented from becoming unstable, which unstable condition would otherwise occur because of application of an excessively large braking force to the wheels.

Please replace the paragraph beginning at line 20 of page 13 with the following amended paragraph.

FIG. 11 is a diagram showing a wheel tread, which is the lateral distance between the center of the ~~contact~~ contact surface between the tire tread of a rear left wheel and the road surface and that of a rear right wheel, as well as the centroid height, which is the vertical distance between the centroid of the vehicle and the road surface.

Please replace the paragraph beginning at line 16 of page 26 with the following amended paragraph.

In the case where the absolute value of the steering angle θ_s is at least 90° , when the estimated vehicle-body speed V_{so} is less than the prescribed value (such

as when $V_{so}=20$ km/hr as shown in FIG. 3), the control gear ratio n is set to a value of at most the actual gear ratio of 20 and decreases as the estimated vehicle-body speed V_{so} ~~increases~~ decreases and as the absolute value of the steering gear angle θ_s increases. In this case, as is clear from Equation (1), the absolute value of the target yaw rate Y_{rt} becomes greater than or equal to the absolute value of the reference yaw rate.

Please replace the paragraph beginning at line 26 of page 34 and ending at line 7 of page 35 with the following amended paragraph.

Net Next, setting the control mode of the vehicle will be described. The CPU 61 repeatedly performs the routine shown in FIG. 7 at predetermined intervals. At a prescribed timing, the CPU 61 starts processing from Step 700. It proceeds to Step 705 and determines whether anti-skid control is necessary at the present time. Anti-skid control is control which decreases the braking force in a specified wheel when the specified wheel is locked when the brake pedal BP is being operated. The details of anti-skid control are well known, so an explanation of the details will be omitted here.

Please replace the paragraph beginning at line 9 of page 47 with the following amended paragraph.

In addition, the present apparatus calculates a target lateral acceleration limiting value $G_{ytlimit}(H/T)$ on the basis of the "centroid height--tread ratio HIT" (the ratio of the centroid height H to the wheel tread T), which is a constant value

determined by the vehicle body, and with reference to the table shown in FIG. 12 and representing the relationship between the "centroid height--tread ratio H/T " and the target lateral acceleration limiting value $G_{y\text{limit}}(H/T)$ (m/s^2) based on the "centroid height--tread ratio H/T ." As shown in FIG. 11, the wheel tread T represents the lateral distance between the center of the contact surface between the tire tread of the rear left wheel RL and the road surface and the center of the ~~contact~~ contact surface between the tire tread of the rear right wheel RL and the road surface. The centroid height H is the vertical distance between the centroid G_r of the vehicle and the road surface.